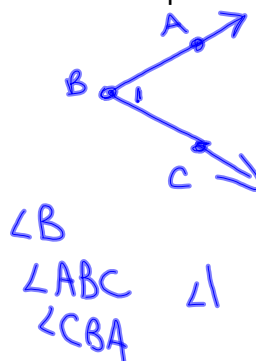


1.4 Measure and Classify Angles

Angle-figure formed by 2 rays with a common endpoint

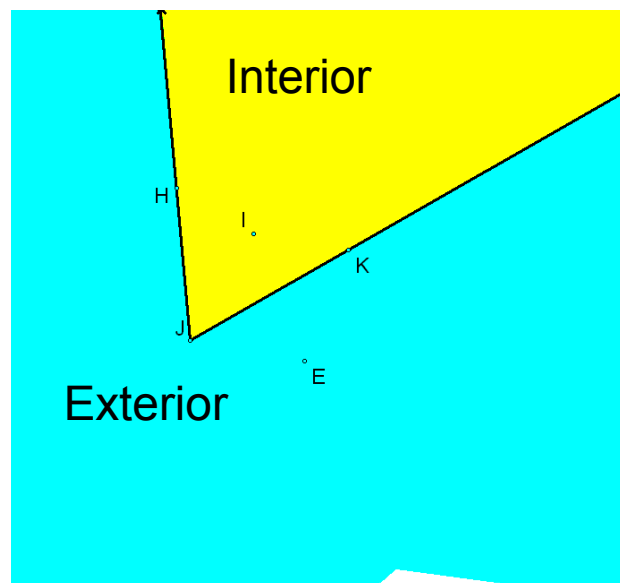


Rays are the sides of an angle

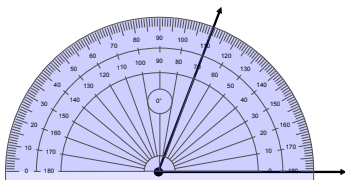


Common endpoint is the vertex

B is the vertex



Postulate 3--Protractor Postulate--An angle can be positioned so that one ray ends with 0 and the other end can be matched one-to-one with the real numbers between 0 and 180.

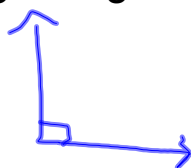


Classifying Angles

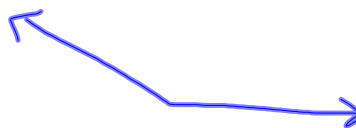
Acute angle-measures between 0° and 90°



Right angle-measures 90°



Obtuse angle-measures between 90° and 180°



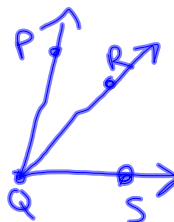
Straight angle-measures 180°



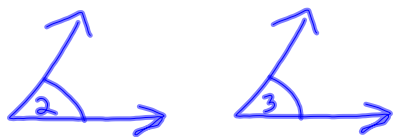
Postulate 4--The Angle Addition Postulate--If

R is in the interior of $\angle PQS$, then

$$m\angle PQR + m\angle RQS = m\angle PQS$$



Congruent angles-angles that have the same measurement



$$\angle 2 \cong \angle 3$$

$$m\angle 2 = m\angle 3$$

~~$$m\angle 2 \cong m\angle 3$$~~
~~$$\angle 2 \cong 3$$~~

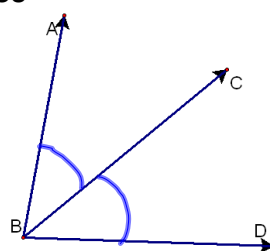
Angle Bisector-ray that divides an angle into 2 congruent angles

BC bisects $\angle ABD$

$$\angle ABC \cong \angle CBD$$

$$m\angle ABC = m\angle CBD$$

$$m\angle ABC = \frac{1}{2} m\angle ABD$$



ex: Solve for x.
Find the $m\angle ABC$

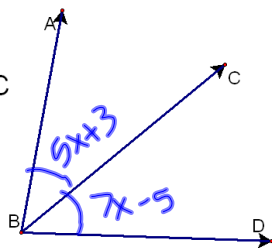
→ BC bisects $\angle ABD$

$$m\angle ABC = 5x + 3$$

$$m\angle CBD = 7x - 5$$

$$5x + 3 = 7x - 5 \quad m\angle ABC = 23^\circ$$

$$x = 4$$



ex: Solve for x.

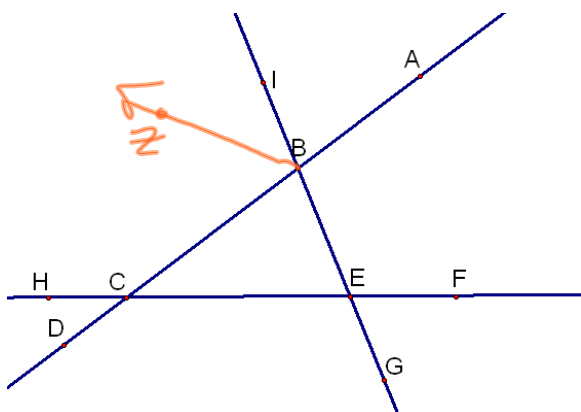
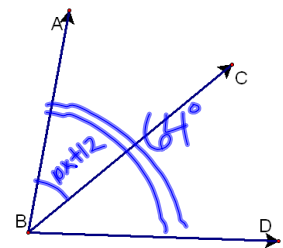
→ BC bisects $\angle ABD$

$$m\angle ABC = 10x + 12$$

$$m\angle ABD = 64$$

$$10x + 12 = 32$$

$$x = 2$$



HW p28-30

#s 3, 4, 6-10, 15-20, 23-26, 40, 41